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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/761,265	01/16/2001	Seyhan Civanlar	E0987-1110	5829
26379	7590	09/22/2004	EXAMINER	
GRAY CARY WARE & FREIDENRICH LLP 2000 UNIVERSITY AVENUE E. PALO ALTO, CA 94303-2248			CHO, HONG SOL	
			ART UNIT	PAPER NUMBER
			2662	

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/761,265	Applicant(s) CIVANLAR ET AL.	
	Examiner Hong Cho	Art Unit 2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 1-16 and 20-32 is/are rejected.
- 7) ☒ Claim(s) 17-19 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102(e) that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-7, 11-12, and 25-28 are rejected under 35 U.S.C. 102(e) as being unpatentable over Miki et al (U.S 6771662), hereinafter referred to as Miki.

For the purpose of examination, “soft bandwidth segment” is interpreted by Examiner to mean “label switched path between two nodes” and “virtual backbone tunnel coupled with the existing network infrastructure” to mean “MPLS label switched path with IP network over (Synchronous Optical Network) SONET”.

Re claims 1-2, 5, and 11-12, Miki discloses MPLS network (*soft bandwidth service infrastructure*, figure 1, MPLS Domain D2) with PPP over SONET (POS) (*existing fiber optic IP backbone network*, figure 1). Miki discloses building a label switched path between two nodes on the network with MPLS domain (*defining one or more soft bandwidth segments between predetermined points on the existing network infrastructure*, figure 2). Miki discloses establishing MPLS label switched paths between hosts with edge and core nodes on the POS (*integrating the soft bandwidth segments to establish one or more virtual backbone tunnels coupled with the existing network infrastructure*). Miki discloses forwarding data traffic through MPLS label switched

paths (*transmitting data traffic across the network such that soft bandwidth traffic is carried across the one or more virtual backbone tunnels*) and forwarding IP packets across POS (*routine network data traffic is carried across the existing network infrastructure, figure 2*).

Re claim 3, Miki discloses MPLS network with PPP over SONET (POS) (*existing network infrastructure, figure 1*) including core nodes (*core network routers, figure 1, element C11-12*) and edge nodes (*exchange routers, figure 1, element E11-13*) for accessing to the MPLS network and routing packets to core nodes (*enabling access to the existing network and aggregating data traffic to core routers*).

Re claim 4, Miki discloses hosts connected to each other with a set of edge routers (one or more service providers are connected via exchange routers, figure 25).

Re claims 6 and 7, Miki discloses edge nodes operating routing function based on ingress and egress routing information tables (*exchange routers operate as ingress and egress label switched routers, column 2, lines 41-49, figure 27 and 28*) and core nodes routing traffic across a *label switched path* (*routing soft bandwidth traffic across the virtual backbone channels, figure 18*).

Re claims 25 and 28, as explained in the rejection of claim 1, Miki discloses transmitting data packets across MPLS label switched paths with IP network over SONET (*transmitting data packets across a virtual backbone tunnel*). Miki discloses determining and establishing MPLS label switched path between two nodes on the network with MPLS domain (*determining and establishing a virtual backbone tunnel or soft bandwidth traffic path between predetermined points on the existing network infrastructure, figure*

2). Miki discloses assigning input and output label to data packets and transmitting data packets based on label information in a routing information table (*assigning an identifier label to data packets entering the virtual backbone and transmitting data packets in accordance with the identifier label*, column 3, lines 49-56).

Re claims 26 and 27, Miki discloses label information indicating routing information (*identifier indicating routing information*) with destination IP address (figure 2).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miki in view of Goguen et al. (U.S 6665273), hereinafter referred to as Goguen.

Re claims 8-10, Miki fails to teach explicitly using an interior gateway protocol such as OSPF and IS-IS for routing data traffic within the fiber-optic backbone network and an internal border gateway protocol for external data traffic routing. However, Goguen teaches using Interior Gateway Protocol (IGP) such as OSPF and IS-IS (column 1, lines 58-64). It is well known in data communications networks to use internal border gateway protocol (iBGP) in order to route data traffic within an Autonomous System (AS).

In view of this, having the teaching of Goguen and then given system of Miki, it would have been obvious to one having ordinary skill in the art at the time the invention was made to implement routing protocols of Goguen into Miki's network. The motivation is to meet the requirement of routing protocols to route data traffic.

Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miki in view of Kodialam et al. (U.S. 6538991), hereinafter referred to as Kodialam.

Re claims 13-14, Miki discloses establishing MPLS label switched path, as explained in the rejection of claim 1. Miki fails to teach using MPLS signaling protocol such as RSVP in establishing MPLS tunnels. However, it is well known in MPLS networks that RSVP or LDP are used to reserve link bandwidth and establish a virtual circuit connection.

Kodialam teaches using RSVP for establishing a virtual connection (*MPLS signaling protocol for establishing virtual backbone tunnels*, column 2, lines 34-38). In view of this, having the teaching of Kodialam and then given system of Miki, it would have been obvious to one having ordinary skill in the art at the time the invention was made to implement RSVP signaling protocol into Miki's network.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miki in view of Poisson et al. (U.S. 6765591), hereinafter referred to as Poisson.

Re claim 15, Miki fails to disclose managing virtual backbone tunnels using LDAP.

However, Poisson discloses using LDAP for managing virtual tunnels when a user attempts to establish a tunnel connection (column 6, lines 38-48). It would have been

obvious to one having ordinary skill in the art at the time the invention was made to implement LDAP into Miki's network for scaleable, redundant and easily developed directory layout.

Claims 16, 20-24, and 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miki in view of Gibson (U.S. 6678264).

Re claim 16, Miki discloses establishing MPLS label switched paths between hosts with core and edge nodes, but fails to teach maintaining network bandwidth information in LDAP database, receiving user request with particular soft bandwidth attributes, and informing particular components of the network infrastructure of the soft bandwidth network configuration information. Gibson discloses determining or selecting a particular path from set of suitable paths on the basis of available network capacity (*a route optimizer determining soft bandwidth availability within the network*, column 5, lines 39-42). Gibson discloses maintaining and advertising network information such as traffic levels to the entity in the network (*maintaining network bandwidth traffic information and informing particular components of the network infrastructure of the soft bandwidth traffic path information*, column 5, lines 54-58). Gibson discloses managing MPLS label switched paths by changing the characteristics of an existing path (*maintaining updated soft bandwidth network configuration information relating to the determined soft bandwidth path*, column 8, lines 28-31). It would have been obvious to one having ordinary skill in the art at the time the invention was made to

implement Gibson's teaching and system into Miki's network to provide network with updated network traffic information to improve network performance.

Re claim 20, Gibson discloses administrative server communicating to LDAP database (figure 7).

Re claim 21, Gibson discloses receiving soft bandwidth service requests by users of the network (column 5, lines 34-35).

Re claims 22 and 23, Gibson discloses receiving a user's request on QoS provided by the network (column 5, lines 44-47).

Re claim 24, Gibson discloses a connection manger monitoring label switched paths (*a tunnel monitor for monitoring operation of virtual backbone tunnels*, column 8, lines 1-2).

Re claims 29 and 30, Miki discloses all the limitations as explained in the rejection of claim 1, but fails to teach determining bandwidth availability and informing traffic path information to particular components of the network infrastructure. However, Gibson discloses providing a dedicated switched virtual circuit (*determining an explicit soft bandwidth traffic path within the network*) with Quality of Service (QoS) (*soft bandwidth attribute information on an MPLS network; receiving a request for particular soft bandwidth service*, column 5, lines 27-34).

Gibson discloses determining or selecting a particular path from set of suitable paths on the basis of available network capacity (*determining soft bandwidth availability within the network*, column 5, lines 39-42). Gibson discloses advertising network information such as traffic levels to the entity in the network (*informing particular components of the*

network infrastructure of the soft bandwidth traffic path information, column 5, lines 54-58). It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement teachings of Gibson into Miki's network to provide reliable and guaranteed QoS as stated in column 5, lines 46-47.

Re claim 31, Miki fails to teach providing information on network traffic path stored in a network information directory to a network exchange node. Gibson discloses managing MPLS label switched paths by changing the characteristics of an existing path (*soft bandwidth traffic path is stored in a network information directory*, column 8, lines 28-31) and providing label switched routers with MPLS label switched paths (*and a network exchange router retrieves the information*, column 8, lines 42-45). Since routers need to route traffic data based on the routing table, it would have been obvious to one having ordinary skill in the art at the time the invention was made to implement teachings of Gibson into Miki's network to provide network information such as traffic path information to help determine the optimal network path across the network.

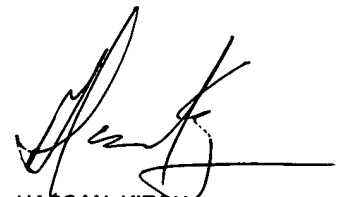
Re claim 32, Miki discloses converting IP packets to MPLS packets by the edge nodes and forwarding MPLS packets to core nodes (*encoding label information into an IP packet header at edge routers and passing the label information to core routers*, column 11, lines 1-5).

Allowable Subject Matter

5. Claims 17-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
- US Patent (6563793) to Golden et al. discloses method for providing guaranteed QoS using Reservation Protocol
 - US Patent (6735633) to Welch et al. discloses system for bandwidth allocation in a communication network
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hong Cho whose telephone number is 571-272-3087. The examiner can normally be reached on Mon-Fri during 7 am to 4 pm.
- If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-3088.



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